



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/535,540

12/14/2005

Cameron James King

FAK-7683

9225

26294

7590

04/27/2009

TAROLLI, SUNDHEIM, COVELL & TUMMINO L.L.P.  
1300 EAST NINTH STREET, SUITE 1700  
CLEVEVLAND, OH 44114

EXAMINER

DINH, BACH T

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

04/27/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/535,540	<b>Applicant(s)</b> KING, CAMERON JAMES	
	<b>Examiner</b> BACH T. DINH	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Summary***

1. This is the response to the communication filed on 12/30/2008.
2. Claims 1-4 and 19 remain pending in the application.
3. All of previous rejections are withdrawn in view of applicant's amendment to the claims.
4. The amendment did not place the application in condition for allowance.

### ***Claim Rejections - 35 USC § 112***

5. Claim 1-4 and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Independent claims 1 and 19 recite the limitation "a substantially linear flow path through the electrocoagulation cell"; however, the originally filed specification does not explicitly state that the liquid follows a substantially linear path through the electrocoagulation cell. Applicant asserted that the second paragraph on page 6 of the specification and the arrow at the bottom of figure 1 provide support for the aforementioned limitation; however, the second paragraph on page 6 only states that the conductive solution is caused to flow between electrodes 2 at different potential, which does not explicitly state that the conductive solution is caused to flow in a linear path. Furthermore, the specification does not explain the significance of the arrow in figure 1; therefore, it is unclear how arrow can represent the linear flow path of the solution.

Art Unit: 1795

Claims 2-4 are rejected as dependents of claim 1.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-2 and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Gilmore (US 6,613,217) in view of Johnny (US 2002/0185446). Gilmore is relied on and cited for the first time in this office action. Its use is necessitated by applicant's amendment to the claims.

Addressing claims 1-2 and 19, Gilmore discloses a control assembly for electrocoagulation cell (figures 1-4) comprising:

A plurality of electrodes (electrode blades 42) comprising tabs 58 extending upwardly from an adjacent top edge of each electrode blade (figure 9) to establish either positive or negative electrical connection above the liquid bath (7:37-49). The tabs of the positive electrode blades are the claimed first tabs and the tabs of the negative electrode

Art Unit: 1795

blades are the claimed second tabs. The blades are arranged in a staggered formation (figures 1 and 4) and connected in the reaction chamber to have alternating polarity between adjacent blades (7:44-49). Furthermore, liquid flows through the reaction chamber in a generally linear, horizontal path between an inlet and an outlet (6:32-40).

Electrical connection means attached to the electrode blades (6:32-40, 7:30-49, DC current from the power supply 40 is applied to the electrode blades).

Gilmore is silent regarding the first and second elongate busbars, the first and second tabs with the first and second notch, slot or aperture of each positive and negative electrode, the plurality of fasteners and their arrangement as required by current claims.

Johnny discloses a control assembly for an electrocoagulation cell (figure 8) comprising releasable connection means (threaded busbar connectors 30 and 32) extending parallel to each other and normal to the top edges of the electrodes (figure 6, the busbar connectors 30 and 32 are extending perpendicularly to the top edges of the electrodes), each provides electrical connection to the respective anode and cathode plates by extending across all of the anode or cathode plates [0076]; therefore, the openings of the anode and cathode plates through which the busbar connectors 30 and 32 extending are the claimed notch, slot or aperture. Furthermore, the electrical connections 30 and 32 are secured to the electrode plates by washers 38 and nuts 39 (figure 8, [0076]).

At the time of the invention, one with ordinary skill in the art would have found it obvious to modify the electrocoagulation cell of Gilmore with the busbar connectors 30 and 32 of Johnny extending through and secured to each tab 58 of the electrode blades 42 by the washers 38 and nuts 39 because the treaded busbar connectors, washers and nuts provide

Art Unit: 1795

secured electrical contact and connection between the power supply and the electrode plates (Gilmore, [0076]). Furthermore, one would have expected success when combining the busbars, washers and nuts of Johnny with the electrode plates of Gilmore because the busbars, washers and nuts of Johnny, separate or in combination, would not have performed a materially different function.

In the modified electrocoagulation cell of Gilmore, the busbar connectors 30 and 32 are the claimed first and second elongate busbars. The openings of the tabs 58 through which the busbar connectors extend\ are the claimed first and second notches, slots or apertures of the first and second tabs, respectively, for the positive and negative electrode blades.

Furthermore, Johnny discloses in figures 6 and 8, the busbar connectors extend parallel to each other and are normal with respect to the top edges of the electrodes and Gilmore discloses the tabs 58 are positioned above the top edges of the electrode blades and above the liquid level (7:37-49); therefore, in modified electrocoagulation cell of Gilmore, the busbar connectors 30 and 32 of Johnny extending through the openings of the tabs 58 would also be normal to the top edges of the electrode blades and spaced from the top edges of the electrode blades 42 so as to avoid contact with the liquid in the electrocoagulation cell.

9. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilmore (US 6,613,217) in view of Johnny (US 2002/0185446) as applied to claims 1-2 and 19 above, and further in view of Gale et al. (US 4,123,339).

Addressing claims 3-4, Johnny discloses the busbar connectors 30 and 32 extend out to provide connection to the external DC electrical power supply [0076].

Art Unit: 1795

Gilmore and Johnny are silent regarding the electrical connection means comprises a power lead secured to an electrical connector having an aperture for engaging with an adjacent end of the busbar.

Gale discloses an electrolytic cell for removing contaminants in a liquid media. The electrolytic cell comprises electrically conductive rods 142 extending through openings on the tabs of the electrodes 138 and 140 (figures 5 and 8, 7:42-55). One end of the electrically conductive rods extend through and are securely connected to electrical leads 34 and 35 via fasteners 152 and 150 provided on either side of the lead. The electrical leads 34 and 35 are the claimed power lead with the portion of the leads in electrical connection with that threaded busbar connectors 142 as the claimed electrical connector. The electrical leads 34 and 35 provide electrical connections between the power supply 30 and the electrolytic cell (figure 1).

At the time of the invention, one with ordinary skill in the art would have found it obvious to modify the electrocoagulation cell of Gilmore with the leads 34 and 35 with their respective fasteners and provide openings or apertures on the leads for engaging with the threaded busbar connectors like those of the electrodes 138 and 140 of Gale because the leads 34 and 35 with their apertures would provide secured electrical connection between the external circuitry and the electrode plates (Gale, figures 1, 4 and 8, 7:52-65).

***Response to Arguments***

10. Applicant's arguments with respect to claims 1-4 and 19 have been considered but are moot in view of the new ground(s) of rejection.

Regarding applicant's assertion made in page 5 of the Remarks/Arguments regarding Examiner Olsen indicated that if the claims were amended to recite a particular flow path that differed from the cited art, the claims might be allowable. The Examiner would like to point out that he does not believe any such indication was ever made during the interview with Attorney Michael R. Steel on 12/16/2008. The Examiner might have suggested that amending the claims to recite a particular flow path would obviate the disclosure of Gilmore (US 6,866,757); however, whether or not such amendment would put the claims in condition for allowance was never suggested or agreed to by Examiner Olsen and Examiner Dinh.

***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period



Art Unit: 1795

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BACH T. DINH whose telephone number is (571)270-5118. The examiner can normally be reached on Monday-Friday EST 7:00 A.M-3:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on (571)272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kaj K Olsen/  
Primary Examiner, Art Unit 1795

BD  
04/17/2009